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(71)Applicant : MITSUBISHI CHEMICAL CORP

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(72)Inventor : HATAKEYAMA KAZUHISA
 KADOIDE YUKIE
 KOBAYASHI MIKI
 TERASAWA MASATO
 YUGAWA HIDEAKI

(54) LACTATE DEHYDROGENASE GENE AND LACTATE DEHYDROGENASE GENE DISTRUPTION STRAIN

(57)Abstract:

PROBLEM TO BE SOLVED: To obtain the subject new gene consisting of a DNA encoding a protein with a specific amino acid sequence, capable of giving a lactate dehydrogenase gene disruption strain of microorganisms, and enabling byproduct lactic acid to be reduced in the production of fine chemicals.

SOLUTION: This gene is a new lactate dehydrogenase gene encoding a protein with an amino acid sequence of the formula, or a protein with an amino acid sequence wherein one or several amino acids are deleted, substituted or added in the amino acid sequence of the above formula, also having lactate dehydrogenase activity, is useful for e.g. the production of a lactate dehydrogenase gene-destruction strain of microorganisms under the principle of homologous recombination with a chromosome DNA, and is capable of reducing byproduct lactic acid in the production of various fine chemicals such as amino acid and other organic acids by the use of the above disruption strain.

Met	Asp	Thr	Val	Gly	Asn	Lys	Etc	Val	Leu	Ile	Gly	Ala	G	A				
5								10					15					
Ala	Cys	Val	Ala	Tyr	Ala	Tyr	Cys	Leu	Ile	Asn	Gly	Gly	Val	Cys	Asp			
20								25					30					
Bis	Leu	Ala	Ala	Asp	Ala	Asp	Gly	Asp	Leu	Asn	Gly	Lys	1,5	Cys	Leu	Gly	Asx	Tal
35								40					45					

Gly	Thr	Pro	Ala	Val	Val	Asn	Arg	Asp	Gly	Ile	Ser	Asp	Val	Val	Gly	
275								280					285		290	
Leu	Gly	Ile	Thr	Asp	Ala	Gly	Val	Arg	Pro	Ile	Asp	Asp	Val	Val	Gly	
290								295					300			
Thr	Leu	Ala	Gly	Ile	Gly	Cys	Gly	Pro	Pro	Gly						
305								310					314			

This gene is obtained by screening a chromosome DNA library of corynebacterium such as Brevibacterium flavum by the use of its partial fragment.